

REMARKS

This application contains claims 1-28. Claim 1 has been amended to correct a typographical error. New claims 24-28 are hereby added. No new matter has been introduced. Reconsideration is respectfully requested.

Claims 1-10, 12-21 and 23 were rejected under 35 U.S.C. 102(b) over Edgar et al. (U.S. Patent 5,537,530), while claims 11 and 22 were rejected under 35 U.S.C. 103(a) over Edgar. Applicant respectfully traverses these rejections.

Claim 1 recites a method for organizing a sequence of video frames made up of first and second portions in the following manner:

- 1) Starting from an initial frame, the first portion of a segment is defined by adding subsequent, similar frames to the segment.

- 2) One of the frames in the first portion is chosen to be the representative frame for the entire segment.

- 3) Using this selected representative frame, the computer then goes on (automatically) to add to the segment further frames having a measure of similarity to the representative frame that is within a predefined bound in order to make up the second portion of the segment. In other words, after selecting the representative frame, the computer automatically measures the similarity between the representative frame and subsequent frames, and uses this similarity in determining which subsequent frames to add to the segment.

Edgar describes a method for video editing by locating segment boundaries and reordering segment sequences. A computerized process analyzes digitized video source material and identifies boundaries of segments or scene changes (col. 4, lines 13-17). Once the system has determined all relevant scene changes, it attempts to find the most representative image from each scene sequence to represent that sequence (col. 12, lines 1-13). After the segments have been identified in this manner, Edgar's representative frames are displayed, permitting a user to perform video editing by manipulating these representative frames (col. 3, lines 34-46). According to Edgar, the user may consolidate selected representative frames ("stills") in order to put together a "meaningful collection of video from the

user's perspective, which was not necessarily sequential as originally created..." (col. 4, lines 51-57).

In rejecting claim 1 in the above-mentioned Official Action and Advisory Action, the Examiner referred to col. 7, line 56 – col. 8, line 1, in Edgar, which relates to "eliminating or combining identified scene segments and corresponding still frames." Edgar suggests that the system could also determine a value specifying the likelihood that the "particular still frame" (i.e., the end frame, or perhaps the starting frame in a segment) corresponds to a "true scene boundary." On this basis, the Examiner stated in the Advisory Action that "Edgar teaches a representative frame... that corresponds to a scene boundary... to ensure that a true representative frame is chosen. The user (or even an automated selection process) would combine identified scene segments and still frames which correspond to the representative frame."

In maintaining the rejection of claim 1, however, the Examiner did not relate to the specific method of adding further frames to the sequence that is recited in claim 1: determining that a measure of similarity between the representative frame and subsequent frames in the video sequence is within a predefined bound. Although Edgar states generally that a "likelihood value" could be used in determining whether a certain frame is a "true scene boundary," he gives no indication as to how this value is to be calculated. Edgar makes not even the slightest suggestion that the likelihood value might somehow be a measure of similarity between the representative frame and subsequent frames, or that some predefined bound be placed on this measure, as required by claim 1. As stated in MPEP 2131:

To anticipate a claim, the reference must teach every element of the claim.

"The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Edgar's vague statement about a "likelihood value" does not meet this burden with respect to claim 1.

Thus, Applicant respectfully maintains that claim 1, as presented previously, is patentable over the cited art. In view of the patentability of claim 1, claims 2-10, which depend from claim 1, are believed to be patentable, as well.

Claim 12 recites apparatus for organizing a sequence of video frames, while claim 23 recites a computer software product, both of which operate on principles similar to the method recited in claim 1. These claims were rejected on grounds similar to the grounds of rejection cited against claim 1. For the reasons stated above, Applicant respectfully submits that claims 12 and 23 are patentable over the cited art, as are claims 13-21, which depend from claim 12.

Applicant has added new claims 24-28 to recite additional aspects of the present invention that distinguish over the prior art of record. These claims are similar in substance to the claims as filed, while adding further detail regarding the method disclosed for generating the first portion of a segment of the video sequence. Specifically, independent claim 25 recites that distances between the frames are computed, and a bounding subset of frames is then found, based on the distances, for the first portion of the segment. Claims 24 and 25 state that the bounding subset comprises at least three frames. Fig. 3 in the present patent application shows the bounding subset of frames 54. The method for building and updating the bounding subset is shown in Fig. 5 and is described in detail on page 15, line 26 – page 17, line 17.

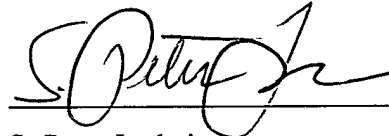
The use of a bounding subset in adding frames to a video segment is also recited in original claim 5 (from which claim 24 depends). In rejecting this claim, the Examiner cited col. 4, lines 57-61, and col. 8, lines 12-16. The passage in col. 4 relates to user selection of representative still images, and appears to bear no relation to bounds of any kind. The passage in col. 8 refers to points of scene transition. Assuming that the Examiner intended to state that the first and last frames in a scene are the “bounding subset” of that scene, there are still no more than two frames in this “bounding subset.” Edgar makes no suggestion that a bounding subset of three or more frames in a segment might be created or used for any purpose whatsoever, nor does he suggest the distance-based method recited in

the claims for finding this bounding subset. Therefore, new claims 24-28 are believed to be patentable over Edgar.

Applicant believes the amendments and remarks stated above to be fully responsive to all of the objections and grounds of rejection raised by the Examiner. In view of these amendments and remarks, all the claims in the present patent application are believed to be in condition for allowance. Prompt notice to this effect is requested.

Date: June 23, 2005

Respectfully submitted,

A handwritten signature in black ink, appearing to read "S. Peter Ludwig", written over a horizontal line.

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